Reconsideration and allowance of this application are respectfully requested in light of the above amendments and the following remarks.

Claims 1, 2, 4, 5, 7, 9, 12, and 13 have been amended, claims 6, 8, 10, 11, 14, and 15 have been cancelled, and claims 16 and 17 have been newly added. The amendments have been drafted to overcome the objections and indefiniteness rejections applied to claims 2, 6, 7, and 10. Support for the amendments is provided at least in Figs. 5-7 and their accompanying descriptions in the specification.

Claims 1 and 9 were rejected, under 35 USC §102(e), as being anticipated by Asano (US 2003/0076830). Claims 2 and 3 were rejected, under 35 USC §103(a), as being unpatentable over Asano. Claims 4, 5, 12, and 13 were rejected, under 35 USC §103(a), as being unpatentable over Asano in view of Okada (US 6,891,840). Claim 7 was were rejected, under 35 USC §103(a), as being unpatentable over Asano in view of Schmitz (XP-002298367). To the extent these rejections may be deemed applicable to the amended claims, the Applicants respectfully traverse based on the points set forth below.

Claim 1 now defines a repeater that: (1) registers an external port number on a first network for a terminal connected

to a second network, in response to an access from the terminal and (2) automatically deletes the registration when the external port has been unoccupied for a predetermined time since its registration. The claimed subject matter provides an advantage of automatically closing a dynamically opened port that is unoccupied so as to reduce the likelihood that the port becomes a security hole for unauthorized access (see specification, paragraphs 11 and 12).

The Office Action proposes that Asano discloses deleting a registered port number when the port connection is terminated or a time-out expires (see Office Action page 4, lines 1-4).

However, the Applicants note that Asano's disclosure of deleting a registration upon the termination of a port connection is very different from deleting the registration of a port that is unoccupied for a predetermined period of time, as recited in claim 1. With respect to Asano's time-out expiry, Asano does not disclose that the time-out expiry is conditioned on anything other than a timer expiration. Thus, Asano deletes the port number registration unconditionally upon the expiration of a timer, whereas the claimed subject matter conditions the registration deletion upon the port being unoccupied for a predetermined period of time.

Moreover, while Asano discloses dynamic network address translation (NAT) and static NAT, Asano fails to disclose: (1) a port number setting section that sets an external port number on a first network for a terminal connected to a second network, in response to an access from the terminal and (2) a port manager that, when an unoccupied time of the external port has reached a predetermined time, automatically deletes registration of the external port number that is elapsed in the predetermined time from a port mapping table.

For Asano's dynamic NAT, it is impossible to delete only an external port that is elapsed for a predetermined time from a mapping table, in a case that the external port is dynamically opened and an unoccupied time of the port is counted after the dynamically opened external port is registered in a mapping table and the counted time has reached a predetermined time.

Also, in Asano, the timing of opening a port occurs when the passing of a packet from a second network (i.e., LAN) to a first network (i.e., WAN) is detected. Accordingly, in Asano, the unoccupied time of the port is not counted after the port is opened (set), the corresponding port that is elapsed for the predetermined time is not deleted from the mapping table in case the counted time reached a predetermined time. Thus, Asano's

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disclosure of dynamic NAT is different from the claimed invention.

For static NAT, in which a port is preliminarily registered, Asano does not disclose closing a port. Even if it is possible to close the port in Asano, since when the port is opened the next time is not disclosed by Asano, it would become one limited service. Accordingly, it is impossible to repeatedly delete/register the external port number. Accordingly, Asano's disclosure of static NAT is very different from the claimed invention.

Accordingly, the Applicants submit that Asano does not anticipate the subject matter defined by claim 1. Independent claim 9 similarly recites the above-mentioned features distinguishing apparatus claim 1 from Asano, but with respect to a method. Therefore, allowance of claims 1 and 9 and all claims dependent therefrom is warranted.

Independent claims 4 and 12 recite: (1) transmitting a presence check packet to a terminal when a communication packet has not been received for a predetermined period of time and (2) automatically deleting an external port number registration if no response is received from the terminal. The Office Action acknowledges that Asano does not disclose these features but

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proposes that Okada discloses them in column 9, lines 42-56 (see Office Action page 7, lines 4-15).

However, Okada discloses: (1) transmitting a check signal and (2) deleting a port registration if a response to the check signal is not received within a predetermined period of time (see Okada col. 9, lines 50-57). This is very different from the claimed features.

The claimed subject matter waits a predetermined period of time since a communication was last received before transmitting a presence check packet, whereas Okada does not disclose a condition for transmitting a check signal. Additionally, the claimed subject matter unconditionally deletes a port registration if a response to the check packet is not received, whereas Okada conditions the deletion of the port registration on not receiving a response to the check signal within a predetermined period of time.

Accordingly, the Applicants respectfully submit that Asano and Okada, considered individually or in combination, do not render obvious the subject matter defined by claims 4 and 12. Therefore, allowance of claims 4 and 12 and all claims dependent therefrom is warranted.

Independent claims 5 and 13 recite: (1) periodically transmitting a presence check packet to a terminal and (2)

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automatically deleting an external port number registration if no response is received from the terminal. The Office Action acknowledges that Asano does not disclose these features but proposes that Okada does in column 9, lines 41-56 (see Office Action page 8, line 11, through page 9, line 1).
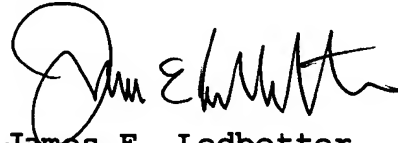
However, as discussed in connection with claims 4 and 12, Okada discloses: (1) transmitting a check signal and (2) deleting a port registration if a response to the check signal is not received within a predetermined period of time (see Okada col. 9, lines 50-57). This is not the same as the claimed features.

The claimed subject matter waits a predetermined period of time before each periodic transmission of a presence check packet, whereas Okada does not disclose a condition for transmitting a check signal. Additionally, the claimed subject matter unconditionally deletes a port registration if a response to the check packet is not received, whereas Okada conditions the deletion of the port registration on not receiving a response to the check signal within a predetermined period of time.

Accordingly, Applicants submit that Asano and Okada, considered individually or in combination, do not render obvious the subject matter defined by claims 5 and 13. Therefore, allowance of claims 5 and 13 and all claims dependent therefrom is warranted.

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In view of the above, it is submitted that this application is in condition for allowance and a notice to that effect is respectfully solicited.

Respectfully submitted,

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